



AQUA-TERRA CONSULTANTS

"PROFITABLE SOLUTIONS TO POLLUTION"

TO: U.S. Food and Drug Administration 8135 '97 DEC 31 P2:02
Dockets Management Branch (HFA-305)
12420 Parklawn Dr. rm 1-23
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FROM: Alan Ismond

DATE: 12/29/97

RE: **MICROBIAL SAFETY OF PRODUCE**
DOCKET NO. 97N-0451

The following comments are in reference to the document "Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables":

The estimated number of deaths in the U.S. due to food borne illnesses is about 9,000 people per year. The acceptable level should be zero. Anyone who advocates a number greater than zero must be referring to someone that is not themselves, a family member or a friend, but rather, some nameless, faceless individual. Why should we have two standards for food safety: one for the people we care about and one for strangers?

The ultimate protection from microbial hazards can only be achieved if pathogens are not present in food, especially foods that are minimally processed before eating. The greatest risk comes from non-human sourced pathogens that are present in the food at the farm level. (The risk from human sourced pathogens represents a smaller risk and percentage of food borne outbreaks. This problem can be addressed by existing requirements for sanitation and HACCP). There are only two options to ensure absolute food safety: eliminate pathogens at the farm level or find a process that kills all pathogens after harvesting / processing. The first option eliminates the problem at the source. True quality comes from preventing defects, not remediating the product. The second option is an attempt to rework a defective product. If we are looking to provide the American consumer with a quality product, the first option should be the preferable one.

The claim that zero defects is unachievable at the farm level, or achievable but at a tremendous increase in the cost of food is only partially true. Given the present methods of farming and animal rearing that are geared towards least cost production and maximum yield, this is true. Unfortunately, present animal husbandry methods have resulted in ideal conditions for pathogens and contaminated fecal material. However, it should be noted that there are alternative methods

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for the rearing of animals that do not result in pathogens being present in the animals or their manure. A shift away from maximum tonnage to optimal tonnage and maximum product quality could result in a lower return on investment with two exceptions. If the externalized costs of food pathogens and the impact on people are reincorporated back into the cost of present animal husbandry methods, the current farming methods would be less profitable than the alternative quality driven model. As well, if consumers reconciled the cost impact of food borne illness with the cost of food, it would be financially advantageous to pay a little more for quality food.

Microbial contamination of non-human origins is predominantly due to farm animals reared under intensive or feedlot conditions. The vector for contamination of fruits and vegetables is irrigation / processing water that has been contaminated by run off or ground infiltration from feedlot operations, and/or the application of contaminated manure to fertilize the soil on produce farms. In order to eliminate these pathogens in fruits and vegetables, it is essential that the pathogens from feedlots not find their way onto farms. Either feedlots must convert to the quality driven model outlined above, or they must create complete containment of any solid or liquid waste from the farm.

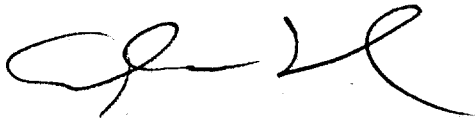
The use of contaminated water and manure on produce farms is incompatible with a zero risk target, or a quality product. Why introduce a hazard in the hopes of eliminating or remediating it further down the process? All water use, from irrigation to processing should be high quality and pathogen free. All animal manure used for fertilizer should only be sourced from feedlots that are free of pathogens and use husbandry methods that support this target. Non-composted or untreated manure from feedlots should not be used as fertilizer. Sewage sludge should not be used for growing food for human consumption. Instead, it should be used for growing vegetation or feed for animals, and only if the levels of pathogens and contaminants are at safe levels.

With regard to Positive Lot Identification, as long as product cannot be traced back to the grower, it will be impossible to correlate outbreaks with farm and processing practices. As well, the lack of trace back will permit farmers and processors to continue to externalize the costs of food borne illnesses. If farmers and processors are not accountable for their actions, where is the incentive to improve on food safety? It is too easy to point a finger at a foreign producer, another food product, etc.

Finally, the government effort to improve the safety of fruits and vegetables is based on voluntary guidelines for the industry. Unless there is a financial incentive (or a moral awakening) to change current farming and processing methods to improve food safety, the industry is not likely improve product quality. The meat industry has shifted the responsibility of safe meat to the consumer: if they don't handle and cook the meat correctly, they are to blame for their illnesses. The meat industry must realize that consumers and the Hotel / Restaurant / Institutional trade cannot handle a biohazardous product without consequences. Hence, irradiation is now

being pursued. Once again, the approach is to rework a defective product rather than growing the quality into the product at the farm level. Perhaps the quality of fruits and vegetables will not fair as well with irradiation, and the industry may look for another way of reworking their products. The FDA has the opportunity to encourage the industry to fix the problem where it makes the most sense: at the farm level. If the industry is reluctant to embrace their responsibilities, then government encouragement may be necessary. Let's not spend millions on a feel good campaign. Let's encourage the industry to stop killing 9,000 people per year.

Sincerely,

A handwritten signature in black ink, appearing to be 'Alan Ismond', written in a cursive style.

Alan Ismond, P.Eng.



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